

RH133 Red Hat Linux System Administration and RHCT

Course Summary

For users of Linux (or UNIX) who want to start building skills in systems administration on Red Hat Enterprise Linux, to a level where they can attach and configure a workstation on an existing network. To This 4 1/2-day course provides intensive hands-on training on Red Hat Enterprise Linux 4, and includes the RH202 RHCT Certification Lab Exam on the last day. Those who are interested in taking the RH133 course, but who are not interested in RHCT certification or who feel they must defer the RHCT Exam to a later date may wish to consider RH131.

RH133 Red Hat Linux System Administration and RHCT Description

Goal:

A Linux system administrator who has proven competency by passing the RHCT Exam, a realistic performance-based lab exam that tests his/her actual ability to install, configure, and attach a new Red Hat Linux system to an existing production network.

Audience:

Linux or UNIX users, who understand the basics of Red Hat Linux, that desire further technical training to begin the process of becoming a system administrator.

Prerequisites:

RH033 Red Hat Linux Essentials or equivalent experience with Red Hat Linux. To assist you in determining whether you have equivalent experience, take the RH033 Pre-assessment Questionnaire.

Training Units (TUs):

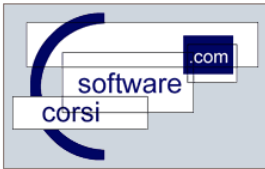
9 TUs

Duration:

4 1/2 days

Prepares for:

RH253 Red Hat Linux Networking and Security Admin

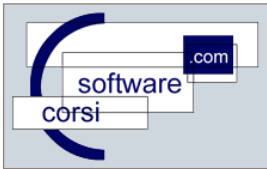


What you will learn: UNIT 1 - Installation

- Hardware Overview
- CPU and Memory
- Preparing to Install
- Multiboot systems
- The RHEL Installer
- Installer Features
- RHEL Installation Overview
- Partitioning Hard Drives
- Sample Partition Structure
- Configuring File Systems
- Software RAID
- LVM: Logical Volume Manager
- Network Configuration
- Firewall Setup
- Security Enhanced Linux
- SELinux Installation Options and Control
- Package Selection
- Validating the Installation
- noprobe Mode and Driver Disks
- Post-Install Configuration
- **Hands-on Lab:** Installation

UNIT 2 - System Initialization and Services

- Boot Sequence Overview
- BIOS Initialization
- Boot Loader Components
- GRUB and grub.conf
- Kernel Initialization
- init Initialization
- Run levels
- /etc/rc.d/rc.sysinit
- /etc/rc.d/rc
- Daemon Processes
- System V run levels
- /etc/rc.d/rc.local
- Virtual Consoles
- Controlling Services
- System Shutdown
- System Reboot
- **Hands-on Lab:** Managing Startup



UNIT 3 - Kernel Services and Configuration

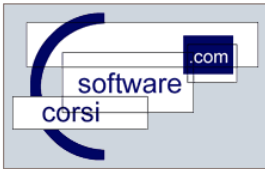
- Objectives
- Agenda
- Kernel Modules
- Kernel Module Configuration
- The /proc filesystem
- /proc/sys configuration with sysctl
- General Hardware Resources
- System Bus Support
- Hotswappable Bus Support
- System Monitoring and Process Control
- **Hands-on Lab:** Configuring kernel parameters

UNIT 4 - Filesystem Management

- System Initialization: Device Recognition
- Disk Partitioning
- Managing Partitions
- Managing Data: Filesystem Creation
- Journaling for ext2 filesystems: ext3
- Mount Options and Configuration
- The Auto-Mounter
- ext2/ext3 Filesystem Attributes
- Virtual Memory Files
- Filesystem Maintenance
- Adding a Drive
- **Hands-on Lab:** Filesystem Management

UNIT 5 - Network Configuration

- Device Recognition
- Network Interfaces
- mii-tool
- ifconfig
- ifup/ifdown
- Interface Configuration Files
- Configuration Utilities
- Binding Multiple IP Addresses
- DHCP/BOOTP
- Global Network Parameters
- Default Route
- Static Routes
- Name Resolution
- DNS Client Configuration
- DNS Utilities



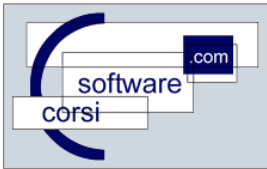
- Network Diagnostics
- **Hands-on Lab:** Static Network Settings

UNIT 6 - RPM and Kickstart

- The RPM Way
- RPM Package Manager
- Installing and Removing Software
- Updating a Kernel RPM
- RPM Queries
- RPM Verification
- Other RPM Utilities and Features
- Automatic Dependency
- Resolution
- Red Hat Network (RHN)
- RHN in the Enterprise
- RHN Registration
- The up2date utility
- Remote Administration
- Network Installation Server
- Using Kickstart to Automate Installation
- **Hands-on Lab:** RPM and Kickstart

UNIT 7 - User Administration

- User Policy Considerations
- The User Account Database - /etc/passwd
- Adding a New User Account
- User Private Groups
- Group Administration
- Modifying/Deleting Accounts
- Password Aging Policies
- Login Shell Scripts
- Non Login Shell Scripts
- Switching Accounts
- sudo
- Network Users
- Authentication Configuration
- NIS Client Configuration
- LDAP Client Configuration
- File Ownership
- Linux File Permissions
- SUID / SGID Executables
- The Sticky Bit
- The Setgid Access Mode
- Default File Permissions
- Access Control Lists (ACLs)



- SELinux
- Controlling SELinux
- SELinux Contexts
- Troubleshooting SELinux
- **Hands-on Lab:** User and Group Administration

UNIT 8 - Printing and Administration Tools

- CUPS: Common Unix Printing System
- Controlling Access to cron
- System crontab Files
- System Logging
- syslog Configuration
- Tape Drives
- Using tar/star
- Using dump/restore
- Using cpio
- Remote Backups
- Other Backup Software
- **Hands-on Lab:** Printing and Admin Tools

UNIT 9 - The X Window System

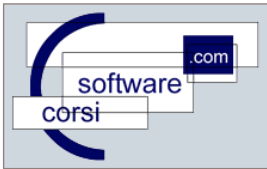
- XOrg: The X11 Server
- XOrg Server Design
- XOrg Server Configuration
- XOrg Modularity
- Server and Client Relationship
- Configuration Utilities
- Remote X Sessions
- **Hands-on Lab:** The X Window System

UNIT 10 - Advanced Filesystem Management

- Software RAID Configuration
- Software RAID Recovery
- Converting LVM1 to LVM2
- Creating Logical Volumes
- Resizing Logical Volumes
- The Linux Quota System
- **Hands-on Lab:** Logical Volumes, RAID and Quotas

UNIT 11 - Troubleshooting

- Basic Guidelines
- Troubleshooting X



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- Troubleshooting Networking
 - Order of the Boot Process
 - Filesystem Corruption
 - Filesystem Recovery
 - Recovery Run-levels
 - Rescue Environment
 - **Hands-on Lab:** System Rescue and Troubleshooting